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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
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2629	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/632,770	Applicant(s) PICCIOTTO ET AL.	
	Examiner Shaheda A. Abdin	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-11, 15-17, 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Lapstun et al. (US Patent No: 6789191 B1).

(1) Regarding claim 1:

Lapstun discloses a digitizing pen 101, comprising: a pen body (102) with a writing tip (121) for handwriting on a sheet of paper (e.g. net page 1, note that net page 1 is a sheet of paper, column 4, lines 16-17) (see Fig. 1, Fig. 8, column 4, lines 63-67, column 38, lines 63-67, column 39, lines 1-15);

an optical sensor (132) for imaging a writing surface of said sheet of paper (e.g. 1) and that is disposed in the pen body (102) (column 39, lines 44-55);

a tag-recognition reader connected to the optical sensor (132) and for gathering location information from data encoded on at least one tag positioned on said writing surface (column 17, lines 33-50, note that the pen 101 interact with net page 1, the coded data 3 of the tage is read by the pen),

a velocity reader (accelerometer) connected to the optical sensor (note that accelerometer is a velocity reader because accelerometer is the instrument that measured the rate at which the velocity of an object (pen 101 in this case) is

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changing), and for gathering speed and relative direction information of said writing tip (e.g. 121) over said writing surface (e.g. 1) (column 41, lines 25-33);

and a processor (154 which is) connected to receive said tag location, writing-tip speed, and writing-tip relative direction information, and for computing (calculating) a series of locations (orientation) on said writing surface visited by said writing tip (column 40, lines 10-21, lines 35-40).

(2) Regarding claim 3:

Lapstun teaches the tip (e.g. nib 121) further comprises a ball for depositing ink (column 40, lines 9-10);

and the processor (145) obtains a sequence (orientation) of images (note that the processor is connected with the image sensor 132 which is sensing image in different location i.e. orientation of the pen in different image tagg) of an ink surface (i.e. net page 1) on the ball and extracts location information from the sequence (orientation) (see column 17, lines 1-20, column 40, lines 9-23, lines 35-57).

(3) Regarding claim 4:

Lapstun teaches a method for digitizing a path (pen path on the net page 1) having an initiation point (i.e. pen down) and termination point (i.e. pen up), the path created by the movement of a pen tip (121) over a surface (net page 1) printed with tags encoded with data (column 16, lines 46-53), the method comprising the steps of:

capturing instances of tag data by using an optoelectronic tag sensor (132) carried by the pen (101) (column 40, lines 46-49);

obtaining location information (stroke information) between the instances by using a position-locating system carried by the pen (e.g. pen101) (column 20,

lines 55-67) ;

combining tag data and location information to construct a digital representation of the path (column 17, lines 1-20, lines 33-40).

(4) Regarding claim 5:

Lapstun teaches determining (determining by processor 145 in the controller 134) the initiation point (pen down point) and termination point (pen up point) of a path (pen path on the net page 1) is interpolated and extrapolated from tag data (column 10, lines 45-51, column 11, lines 7-14).

(6) Regarding claim 6:

Lapstun teaches the position-locating system (by processor 145) is an optical reader (132) comprising an optical reader (i.e. CCD of the sensor 132), a light (light from LED 131), an array of photodetectors (e.g. 144, 143, Fig. 9) and a processor (145) (column 39, lines 44-667).

(5) Regarding claim 7:

claim 7 is same as claim 3. Claim 3 is a n apparatus claim and claim 7 is an method claim.

(6) Regarding claim 8:

Lapstun teaches a method for capturing a signature created by the movement of a pen tip (121) over a surface (net page 1) printed with tags encoded with data (column 5, lines 1-12), the method comprising the steps of:

capturing instances of tag data by using an optoelectronic tag sensor (132) carried by the pen (101) (column 9, lines 55-65);

obtaining (obtaining by processor of controller 134) location information (stroke

information) between the instances by using a position-locating system carried by the pen (101) (column 20, lines 55-67) ;

combining tag data and location information to construct a digital representation of the path (pen path on the net page 1) (column 17, lines 1-20, lines 33-40).

(7) Regarding claim 9:

Lapstun discloses wherein determining (determining by the controller) the initiation point (pen down) and termination point (pen up point) of the path (pen path on the net page surface, 1) is done by using the position-locating system or tag data (column 11, lines 45-51, column 11, lines 7-14).

(8) Regarding claim 10:

Claim 10 is same as claim 6.

(9) Regarding claim 11:

Claim 11 is same as claim 7

(10) Regarding claim 15 and 16:

Fagin teaches the light provides a source of coherent light (e.g. laser source) and the position-locating system captures surface features by detecting specular reflection (i.e. speckle pattern) (column 3, lines 60-67, column5, lines 10-22 and Fig. 3)

(11) Regarding claim 17:

Lapstun teaches (in Fig. 1) a pen (101) and printer (601) for capturing a digital Record (column 17, lines 13-15) of a pen's location on a paper (net page 1) (column 5, lines 21-34), comprising:

a digitizing pen (.e.g101) having a surface (e.g. net page 1) contacting tip (121, Fig. 9), an optical tag sensor (e.g.132) for capturing tag data (column 39, lines 48-53, column

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40, lines 9-21), a position-locating system for providing location information between tags (column 40, lines 10-20), the pen also having transmission hardware for supplying tag data and location information to a computer (column, 5, lines 28-33); and

a printer for adding tags onto an already printed surface (column, 5, lines 28-33, column 14, lines 16-24); which tags can be read by the pen (e.g. 101) but not by the naked eye (note that pen is use for tag reading on net page 1 by the movement of tag and collection of tags 4 using invisible ink which is interpreted) (column 5, lines 13-20).

(12) Regarding claim 19:

Note that claim 19 is same as claim 3. See the discussion in claim 19.

(13) Regarding claim 20:

Lapstun teaches the path information (i.e. pen path on the net page 1) comprises an initiation point (i.e. pen down point) and a termination point (i.e. pen up point) and the initiation point and the termination point of the path are determined from data provided by the position-locating system (column 10, lines 45-51, column 11, lines 7-14).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 12 –14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lapstun in view of Fagin et al. (US Patent No: 6686579 B2) and further in view of Badyal et al. (US 6151015)

(1) Regarding claim 2:

Lapstun teaches the optical sensor (132) comprises an optical reader (CCD), a light (light from LED 131), an array of photo detectors (i.e. photodiode 144 and photo diodes of CCD) (note that sensor 132 is implemented with CCD which is considered as an array of photo detectors) column 39, lines 44-67, column 40, lines 1-21) and a processor (145) (column 39, lines 47-65, column 40, lines 35-65);

the light providing (light from LED 131), a source of light (e.g LED 131) on or below the tip (below the nib of the pen 101); the optical reader (CCD of the sensor) collecting reflected light from the light (light from LED 131) and focusing it on the photodetectors (144, and CCD's photodetectors); the photodetectors (144 and CCD's photodetectors) adapted to capture surface features (net page 1) and produce a sequence of digital frames (i.e. digital image) corresponding to those features (column 39, lines 46 67, column 40, lines 10-20);

Note that Lapstun teaches a processor but Lapstun does not teach that the processor being adapted to yield location information by comparing frames from the sequence.

However, Fagin in the same field of endeavor teaches a processor (22) being adapted to yield location information by comparing (comparing at block 36, see fig. 3) frames from the sequence (column 5, lines 22 and Fig. 3).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate a processor and the method of location information by comparing frames as taught by Fagin into the netpage pen system of Lapstun so that the processor could be adapted to yield location information by comparing frames from the sequence. In this configuration the system would have a greatly increasing productivity for facilitating data entry using a pen input device (column 2, lines 50-65).

Note that both Lapstun and Fagin do not teaches the grazing angle.

However, Badyal teaches that the grazing angle (column 3, lines 62-67, column 4, lines 1-13).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate the method of grazing angle as taught by Badyal in to the pen of Lapstun so that the pen would have a grazing angle. In this configuration the system would have suitable rate of information exchange by the movement of the pen device (Badyal, column 2, lines 64-67).

(2) Regarding claim 12:

Note that Lapstun et al teaches light source and a position locating system captured surface but Lapstun does not teaches that the light provides a coherent source.

However, Fagin in the same field of endeavor teaches the light provides a a coherent source (Laser source 16) (column 3, lines 60-67). Thus the references meet the limitations.

(3) Regarding claim 13:

Badyal teaches that the grazing angle is 5-20 degrees (column 3, lines 62-67, column 4, lines 1-13).

(4) Regarding claim 14:

Lapstun teaches tag data (i.e. tag on net page 1) and location information are transmitted from the pen (e.g.101) to a user's computer over a wireless network (column 5, lines 28-34).

(5) Regarding claim 18:

Note that claim 8 is same as claim 2, see the discussion in claim 2. Claim 8 is a system claim and claim 2 is an apparatus claim.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's discloser.

Fukuo et al. (US Patent No: 7208036 B2) discloses a water-based pigment-containing ink composition for central core type marking pen.

Inquiry

6. Any inquiry concerning this communication should be directed to the examiner at (571) 270-1673 Monday- Friday 7:30 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen, can be reached at (571) 272-7772.

Information regarding the status on an application may be obtained from the Patent Application information Retrieval (PAIR) system. Status information for published

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applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9799 (IN USA OR CANADA) or 571-272-1000.

Any response to this action should be mailed to:

Commissioner of patents and trademarks

Washington, D.C. 20231

Or fax to:

(703)872-9314 (for Technology Center 2600 only)

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11/12/2007

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